

What is Claimed is:

1. In a powdered core which is made by compacting of a mixture of iron powder and resin powder, said iron powder is composed of atomized iron powder and reduced iron powder, and said resin powder is at least one member selected from the group consisting of thermosetting polyimide powder, a mixture of both thermosetting polyimide powder and polytetrafluoroethylene powder, thermoplastic polyimide powder, and a mixture of both thermoplastic polyimide powder and polytetrafluoroethylene powder.

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2. The powdered core as claimed in Claim 1, which is made by compacting of said mixture of iron powder and resin powder, wherein said iron powder contains 5 to 70% by mass of reduced iron powder and said resin powder is thermosetting polyimide powder of 0.01 to 0.15% by mass relative to the total quantity of said powder mixture.

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3. The powdered core as claimed in Claim 1, which is made by compacting of said mixture of iron powder and resin powder, wherein said iron powder contains 5 to 70% by mass of reduced iron powder, and said resin powder comprises both thermosetting polyimide powder and polytetrafluoroethylene powder of 0.01 to 0.15% by mass relative to the total quantity of said powder mixture.

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4. The powdered core as claimed in Claim 1, which is made by compacting of said mixture of iron powder and resin powder, wherein said iron powder contains 5 to 50% by mass of reduced iron powder, and said resin powder is thermoplastic polyimide powder of 0.3% by mass or less relative to the total quantity of said powder mixture.

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5. The powdered core as claimed in Claim 1, which is made by compacting of said mixture of iron powder and resin powder, wherein said iron powder contains 5 to 50% by mass of reduced iron powder and said resin powder is a mixture of both thermoplastic polyimide powder and polytetrafluoroethylene powder of 0.3% by mass or less relative to the total quantity of said powder mixture.

6. A method for producing powdered cores, which comprises the steps of:

10 mixing together atomized iron powder and reduced iron powder in the ratio of 95 : 5 to 30 : 70% by mass as represented by (the former : the latter), particle surfaces of both of said iron powders being coated with a phosphate compound,

15 further adding to said iron powder mixture at least one member selected from the group consisting of thermosetting polyimide, a mixture of both thermosetting polyimide and polytetrafluoroethylene, thermoplastic polyimide, and a mixture of both thermoplastic polyimide and polytetrafluoroethylene,

20 then subjecting the thus formed mixture to compacting with a compacting die, the wall surfaces of which being coated by a lubricant, to obtain a green compact, and

subjecting said green compact to heat treatment, and if occasion demands, further subjecting the heat-treated product to machining of sizing, cutting, or grinding.

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